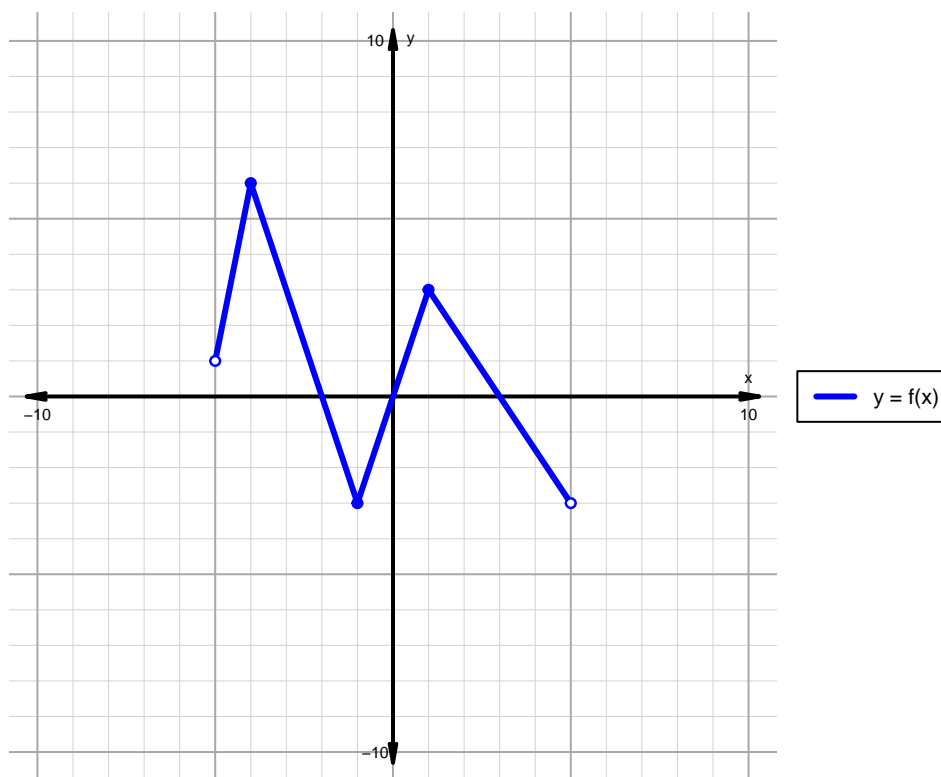


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 28)

1. The function f is graphed below.

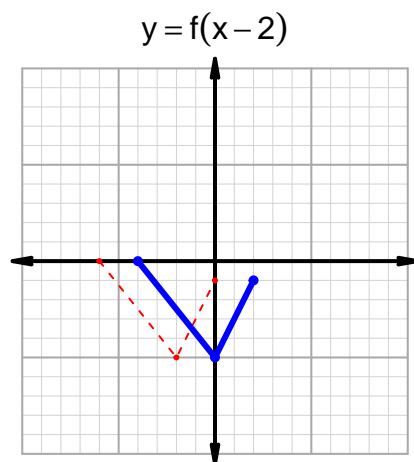
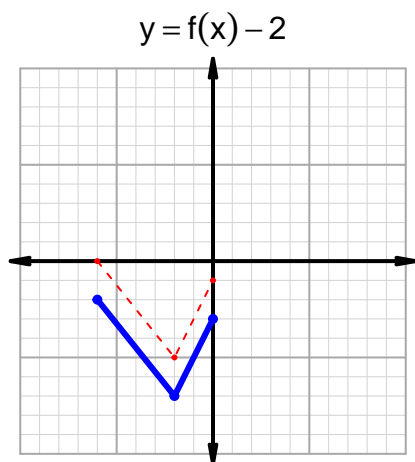
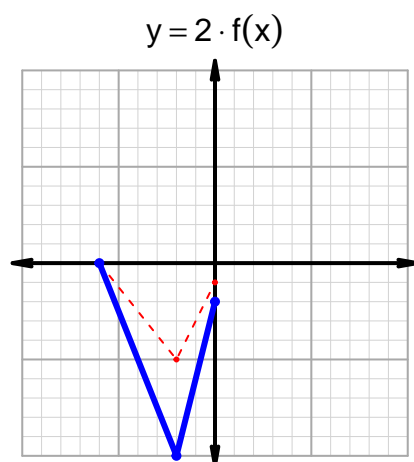
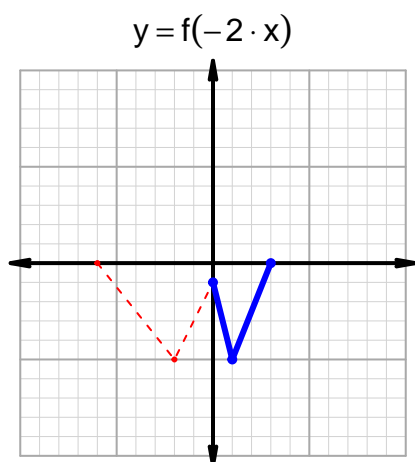


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5, -2) \cup (0, 3)$
Negative	$(-2, 0) \cup (3, 5)$
Increasing	$(-5, -4) \cup (-1, 1)$
Decreasing	$(-4, -1) \cup (1, 5)$
Domain	$(-5, 5)$
Range	$(-3, 6)$

Intervals, Transformations, and Slope Solution (version 28)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 28$ and $x_2 = 40$. Express your answer as a reduced fraction.

x	$g(x)$
28	39
33	28
39	40
40	33

$$\frac{f(40) - f(28)}{40 - 28} = \frac{33 - 39}{40 - 28} = \frac{-6}{12}$$

The greatest common factor of -6 and 12 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-1}{2}$$